

## **STERILE SURGICAL TABLE COVER**

### **RELATED APPLICATIONS**

This is a Continuation application of co-pending U.S. patent application Serial No. 09/964,182, filed September 25, 2001.

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### **BACKGROUND OF THE INVENTION**

#### **1. Field of the Invention.**

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The invention relates to a sterile cover for a medical table used in a medical facility to protect a sterile field for surgical instruments or equipment placed on the table. Additionally the invention relates to a secondary cover that is simple to place and remove, yielding a clean looking and efficient cover to protect and maintain the sterility of the medical table.

#### **2. Description Of Prior Art**

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Figure 1 shows a typical Mayo stand and Figure 2 shows a typical cover. The cover has a rectangular top and elongated skirt on three sides, with a very long skirt portion on the fourth side. The cover is held in place merely by gravity. Sterile surgical table covers are essential in operating rooms to provide a barrier between the non-sterile surfaces of medical and surgical tables and the sterile field around the area of treatment, thereby preventing contamination of surgical instruments or other equipment used in surgery by bacteria

from outside the sterile field. The drape sits atop a metal tray that the surgical and operating room tools and equipment is spread upon. Over the first cover over the metal tray or Mayo tray the surgical technician or assistant historically places two towels to protect the surgical equipment from penetrating through the first cover to the metal tray thus breaking the sterile field barrier. As the towels are in a common flat shape, the edges must be tucked under the edges of the tray to present a clean and safe cover of the tray. Any breach of such towel covering required removal of the surgical instruments and recovering the table with sterile towels. The towels are tucked under the tray to not leave any drape which could catch on personnel or interfere with movement.

### **SUMMARY OF THE INVENTION**

5 The present invention is a secondary or fitted sterile cover for a surgical table and may be made of paper, plastic sheeting, cloth or a combination of two or more of these materials. The invention has a flat surface that lays over the top of the tray and an adjustable skirt which hangs down from the top of the table, and the invention is secured to the table by an elastic band, or drawstring, on the edge of the skirt, which is part of the cover's design. The invention can be quickly installed over the tray with the adjustable skirt fitting over the edge of the tray to create a form fitting cover that saves time in the placement and removal of the cover and give uniform and complete coverage of the tray while protecting the instruments that are placed or inadvertently dropped on the tray.

### **OBJECTS AND ADVANTAGES**

15 The objects of the present invention are:

1. To provide a sterile cover for the surgical table which does not use an excess amount of sterile material, thus saving manufacturing costs and storage space.
2. To provide an additional and sterile cover with added protection against penetration for a surgical table with a minimal skirt which does not touch or interfere with the legs or torsos of the surgical team members, or touch the patient and itself collapses and gathers excess material from the secondary cover as well as gathering the excess material and draping from the primary covers, thus improving safety while at the same time improving the barrier against the breach of the sterile field.

3. To provide a consistent, fast and easy secondary layer to protect against penetration of the sterile field by sharp or hard instruments.

5 4. To provide a sterile cover with a skirt which will not touch, and will not be contaminated by, equipment which may be in the operating room.

5. To provided a sterile cover which is securely held on the table by an elastic band or drawstring, instead of merely by gravity.

10 6. To provide a sterile cover which cannot be accidentally removed or improperly positioned when it is accidentally grasped by the hand of the member of the operating team, or when it is accidentally snagged by a surgical instrument or other object which is being removed from the table or caught by persons or apparatus that moves around the tray.

15 7. To provide a secondary protective sterile cover which can quickly adjust to various trays of different sizes and thicknesses because of the elastic band or drawstring or other adjustable gatherers which is part of the design.

20 8. To provide a sterile cover with a minimal skirt which will not come into contact with, or be contaminated by, objects in the operating room when the adjustable Mayo stand is lowered toward the floor.

25 9. To provide a one-piece sterile cover with a minimal skirt which can be rapidly secured on the table by a contracting elastic band, drawstring, or gatherer designs and which can fit a number of table sizes.

Still further objects and advantages will become evident from the detailed description of the invention, and the drawings.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

Figure 1 shows the Mayo stand and Figure 2 shows a prior art cover with long skirt held in place by gravity;

5        Figure 3 shows the invention with minimal skirt attached to a Mayo stand by use of an elastic band or drawstring at the edge of the skirt;

Figure 4 is a side view of an embodiment showing the top piece and a separate skirt piece sewn onto the top piece with the elastic gather band; and

10        Figure 5 is a bottom view of the embodiment of Figure 4.

### **DETAILED DESCRIPTION OF THE DRAWINGS**

Figure 3 and Figure 4 show the flat top surface member 2, made of flexible sheeting 6, of the cover positioned over the top surface of the tray that fits on the Mayo stand. The cover has a side skirt member 3, made of flexible sheeting 6, hanging down from the top surface member 2. The side skirt member 3 may have a side skirt seam 4 joining its two ends. The side skirt member 3 may have a top side seam 5 joining it to the flat top surface member 2. At the bottom edge of the side skirt 3 is an elastic band, drawstring or other adjustment device 1 attached to the side skirt 3 and positioned around the entire perimeter of the bottom of the skirt 3. An alternate embodiment of the invention is made of one piece of material (flexible sheet member 6) with the elastic band or drawstring 1 around its perimeter. If the gathered cover that is the subject invention is to be the sole barrier, it is desirable that it be impervious to liquid, including any seams or connections.

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### **DESCRIPTION-PREFERRED EMBODIMENT**

5 The preferred embodiment or best mode of the invention would have side skirt member 3 about 2 to 4 inches in width to provide enough material so that the adjustable band 1 can create a secure closure around the bottom of the Mayo stand, yet with side skirt member 3 short enough so that it does not hang down toward the floor so as to contact anything beneath the stand which might catch the sterile cover by instruments, apparatus or people. The preferred embodiment would incorporate an elastic band which would allow the cover to be more quickly positioned over the Mayo stand and substantially closed beneath it by minimal effort by the person applying it to the stand.

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### **OPERATION OF THE INVENTION**

15 The invention is used as follows. The invention comes from the manufacturer in sterile condition enclosed in an impervious sterile package. The person using the cover would open the package by various methods and remove the sterile cover. The person would open the side skirt member 3 and grasp the bottom of the skirt by the adjustable band 1 around the perimeter of the skirt 3. One portion of the skirt 3 would be positioned against a corresponding edge of the tray for the Mayo stand, and then the opposite portion of the skirt would be positioned against an opposite edge of the tray of the Mayo stand. Then these opposite skirt portions would be pulled downward toward the floor, at which time the elastic band 1 would contract thus pulling the lower edges of the side skirt member 3 toward each other under the edges of the tray on the shelf of the Mayo stand, thus securing the cover over the tray of the Mayo stand in a manner to make it difficult for the cover to be accidentally pulled off the stand, and in a manner so that the skirt of the cover does not extend

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downwardly toward the floor to come into contact with the legs or torso of the surgeons, assistants, patient, or by any equipment in the operating room beneath the top of the Mayo stand and thus maintain the sterile field. With the embodiment in Figure 3 and Figure 4, the flexible sheet member 6 is positioned on the tray of the table or stand to be covered, and the elastic band or drawstring 1 is pulled over the edge of the tray, and it contracts the perimeter of the flexible sheet member under the tray, thus securing the cover.

### **ALTERNATIVE EMBODIMENTS**

The invention can be made so that the flat top surface member 2 has different rectangular dimensions to match different sizes of trays or Mayo stands or other tables and stands. The flexible material for the cover could be sterile paper, cloth, polyethylene, or similar flexible plastic films. The invention could be sterilized by common and appropriate means. The invention could be made of one piece of flexible sheeting with a drawstring or elastic band around its perimeter instead of being made of two pieces, with appropriate seam treatment if seams are used, the flat top surface member 2 connected by a top side seams to the side skirt member 3. This version would be easier and cheaper to make and would fit tabletops of varying sizes. Such one-piece cover may have a rounded rectangular shape adaptable to a variety of sizes of rectangular tables or stand tops.

### **CONCLUSIONS, RAMIFICATIONS AND SCOPE**

A number of changes are possible to the above invention, while still remaining within the scope and spirit of the invention. Material for the cover could comprise various kinds and thickness of paper, plastic, rubber, cloth, impervious fabric, as well as composite materials including plastic coated paper. The top surface dimensions

of the cover can be varied in many ways to fit various sizes of stands. The width of the side skirt member 3 can be varied to accommodate different thicknesses of trays of Mayo stand shelves as well as different degrees of closure underneath the trays that is desired. The

5       securement device for securing the side skirt member 3 underneath the tray of the Mayo stand may include in addition to the elastic bands and drawstrings incorporated into the edge of the skirt, hook and fabric (Velcro) strips, plastic or metal snap buttons, hooks and eyelets, belts and buckles, or similar securing devices known to those skilled

10       in the art. For use in cases where the Mayo stand may not be completely sterilized, the cover material of the invention may be waterproofed by various methods, such as coating with plastic, rubber, water repellent chemicals, etc. In situations where it is desired that the flat top surface member 2 should not slip against the top of

15       the tray of the Mayo stand, the underside of the top surface member 2 can be coated with non-slip rubber-like material 8 known to those skilled in the art. Likewise, the top surface member 2 can have a similar non-slip surface 7 on the outside surface so that surgical instruments placed on the Mayo stand on top of the top surface

20       member 2 will not slip across the surface. To withstand the weight of very heavy or sharp instruments or objects placed on the top surface member 2, the material of the invention can be reinforced by lamination with a tough plastic or woven fabric layer along the outer rim or edge or over the entire surface. The means for attaching the

25       side skirt member 3 to the flat top surface member 2 may include gluing, stitching, heat sealing by partial melting or other means known to those skilled in the art.

The specifics about the form of the invention described in this application are not intended to be limiting in scope. The scope of the



invention is to be determined by the claims, and their legal equivalents, not the examples given above.